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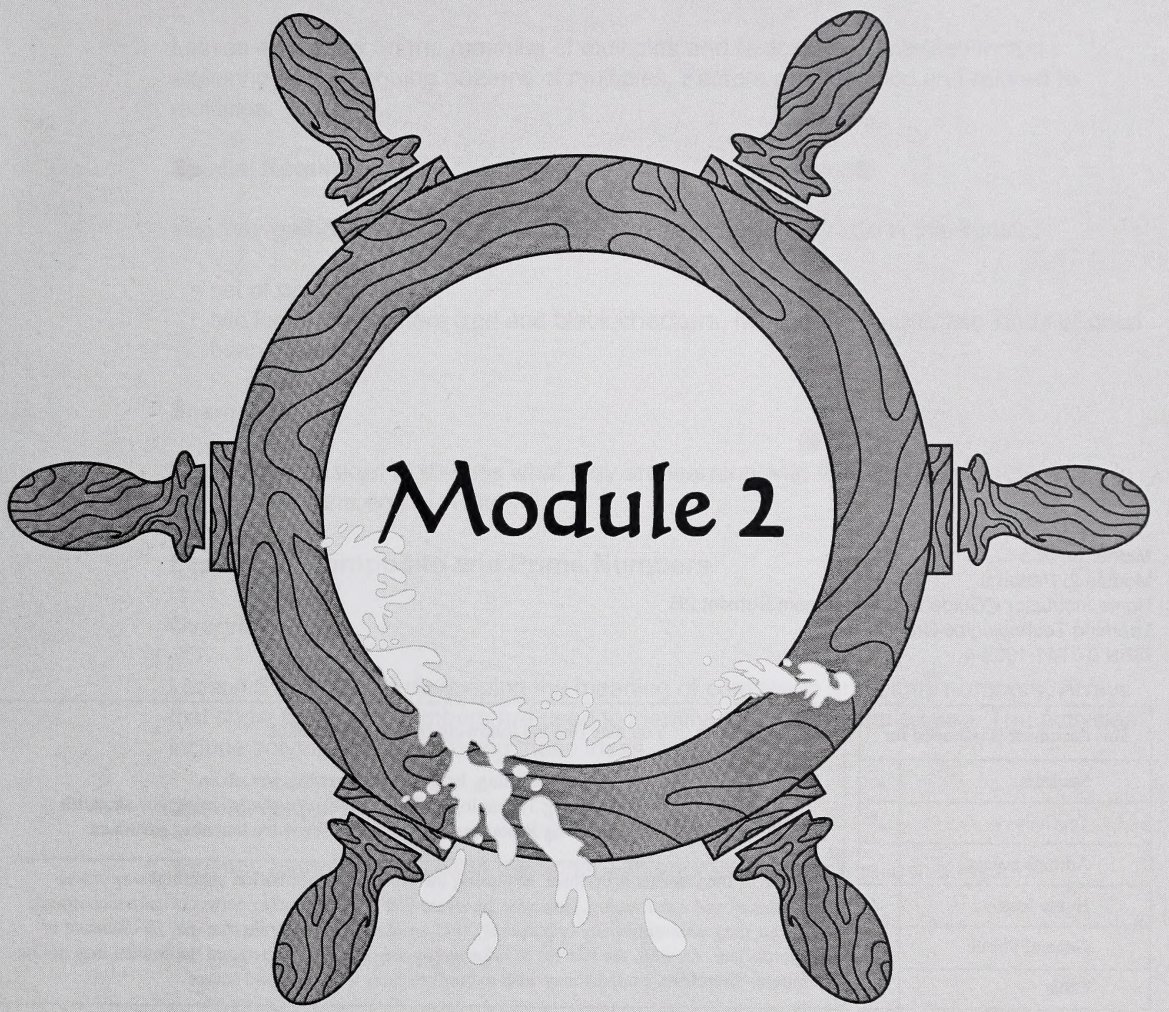
Mathematics 5



Home Instructor's Guide and Assignment Booklet 2B

Learning Technologies Branch

Alberta LEARNING

Mathematics 5
Module 2: Patterns
Home Instructor's Guide and Assignment Booklet 2B
Learning Technologies Branch
ISBN 0-7741-1959-4

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

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- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

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Lesson 4: Multiples and Factors

Overview

Lesson 4 focuses on the meaning of multiples and factors. The activities include exploring and extending patterns of multiples. Factors are identified and related to multiples.

Special Requirements

You may gather the following materials with your student for use in this lesson:

- set of pattern blocks
- two kinds of counters (red and black checkers, two kinds of coins, two kinds of dried beans, etc.)

Sharing Time

Students are asked to discuss what they are learning with their home instructor once in Lesson 4—at the end of Activity 3.

Lesson 5: Composite and Prime Numbers

Overview

Lesson 5 focuses on developing the meaning of composite and prime numbers. Arrays that show factors of numbers are used to identify composites and primes. The activities include solving problems using these ideas.

Special Requirements

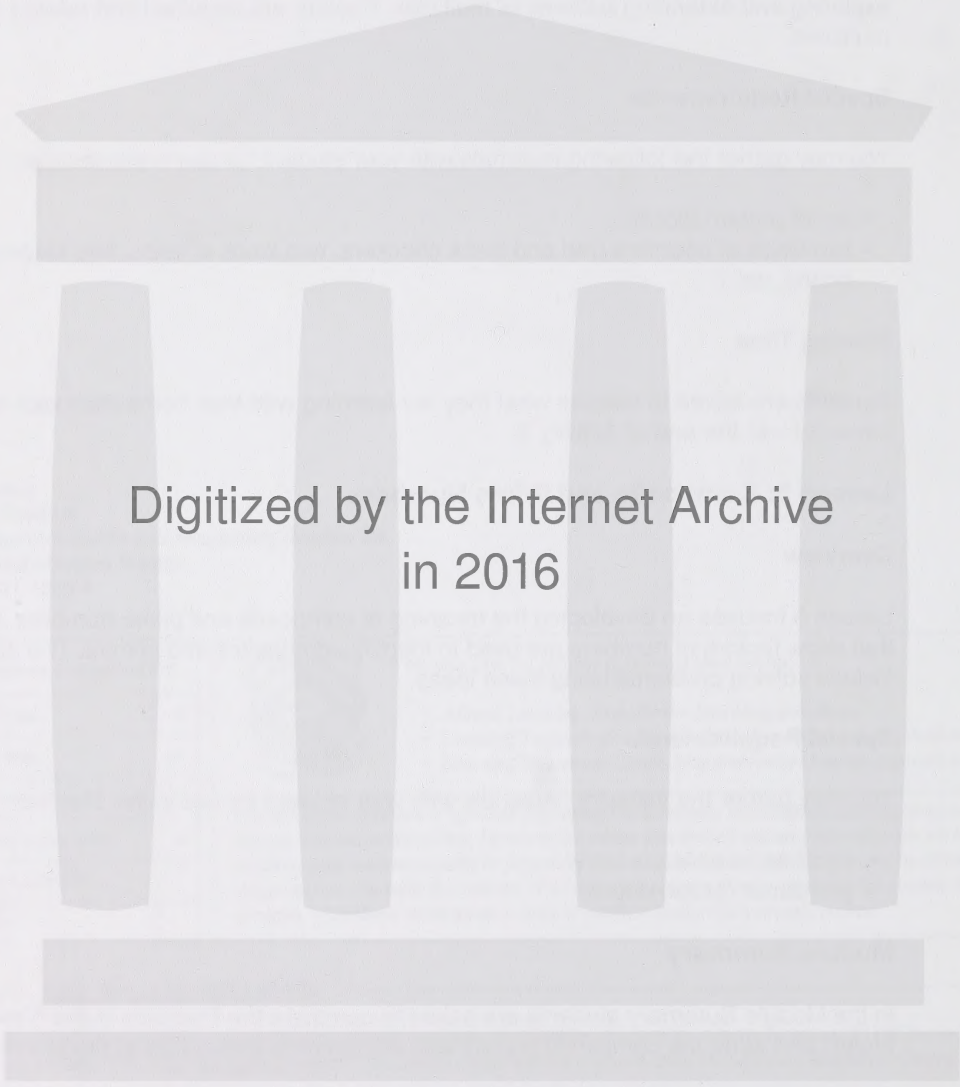
You may gather the following materials with your student for use in this lesson:

- small square tiles
- grid paper (graph paper)

Module Summary

In the Module Summary students are asked to complete the Numbers in the News project and send the completed project with Assignment Booklet 2B to the teacher.

Following the Module Summary are Keystrokes and Review. These special activities can be assigned at a later time to review the module ideas and prepare for the final test.



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ASSIGNMENT BOOKLET 2B

Mathematics 5

Module 2: Lesson 4 Assignment, Lesson 5 Assignment, and Numbers in the News

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

_____

Date Submitted:

_____

Apply Module Label Here

Name

Address

Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

_____

Date Assignment Received:

_____

Grading:

_____

Teacher's Comments

_____

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

2. All faxing costs are the responsibility of the sender.

E-MAILING

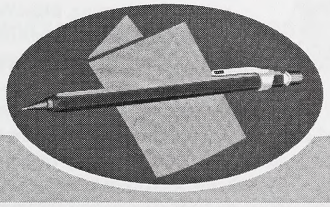
Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 5

Module 2

Patterns

Assignment Booklet 2B



Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Lesson 4 Assignment	16	
Lesson 5 Assignment	17	
Numbers in the News	10	
	43	

Teacher's Comments

Mathematics 5
Module 2: Patterns
Assignment Booklet 2B
Lesson 4 Assignment, Lesson 5 Assignment, and Numbers in the News
Learning Technologies Branch

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ASSIGNMENT BOOKLET 2B
MATHEMATICS 5—MODULE 2: PATTERNS

Your mark on this module will be determined by how well you do your assignments in the Assignment Booklets.

Work slowly and carefully. If you are having difficulties, go back and review the appropriate lessons.

There are two lesson assignments and a Numbers in the News project in this Assignment Booklet. The total value of these assignments is 43 marks. The value of each assignment is stated in the left margin.

Be sure to proofread each assignment carefully.

(16)

Lesson 4 Assignment: Multiples and Factors

1. Jason's mom loaned him $400 to buy a new bike. From the money he makes on his paper route, Jason pays his mom back $25 each month.

(2) **a.** Complete the table to show the monthly payments and the total amount he will have paid back by the end of each month for one year.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Total Paid												

(2) **b.** Explain how you can use the constant function on your calculator to display the numbers you put in your table.

_____

_____

_____

(1) **c.** Look at the numbers in your table in question 1.a. How are all the monthly totals related to the monthly payment of $25?

_____

_____

(1) **d.** What repeating pattern do you see in the monthly totals?

_____

_____

(1) **e.** After the first year, Jason continued making payments in the same way. Using your answer to question 1.d., would his monthly total ever be $335? Explain.

_____

_____

(1) **f.** How many more payments must Jason make after one year?

_____

(2) **2. a.** Draw pictures that show how to use tiles to find all the factor pairs of 18.

(1) **b.** Write all the factor pairs.

_____

(2) **3. a.** Complete the table to find all the factors of 32.

Number Tried	Test it using division.	Is it a factor?	What is the other factor in the pair?
1	$32 \div 1 = 32$	yes	32
2	$32 \div 2 = 16$	yes	16
3	$32 \div 3 = 10$ R2	no	—

(2) **b.** Explain how you know when you have tested enough numbers.

_____

_____

_____

(1) **c.** Write all the factors of 32 from least to greatest.

_____

17

Lesson 5 Assignment: Composite and Prime Numbers

1. The 37 members of the Bunny family were having a reunion. To take pictures, they wanted to divide all the family members into equal-sized groups, with no one left out. Help the Bunny family decide which equal-sized groups, if any, they can make.

(2) **a.** Use Rhadia's method from Activity 3 of Lesson 5. Draw diagrams that show how to use either tiles or shaded grid squares to solve the problem.

(1) **b.** Explain how you know when you don't have to try any more arrays.

_____

_____

_____

_____

(2) **c.** Use Mandy's method from Activities 2 and 3 of Lesson 5. Complete the following table to solve the problem.

Factor Tried	Test it using division.	Is it a factor?	What is the other factor in the pair?

(1) **d.** Explain how you will know when you have tried enough factors.

_____

_____

_____

_____

2. Claire bought several packages of collector cards. After she opened them, she counted a total of 91 cards. Could there have been the same number of cards in each package?

(2) **a.** Use Rhadia's method from Activity 3 of Lesson 5. Draw diagrams that show how to use either tiles or shaded grid squares to solve the problem.

(1) **b.** Explain how you know when you don't have to try any more arrays.

_____

_____

_____

(2) **c.** Use Mandy's method from Activities 2 and 3 of Lesson 5. Complete the following table to solve the problem.

Factor Tried	Test it using division.	Is it a factor?	What is the other factor in the pair?

(1) **d.** Explain how you will know when you have tried enough factors.

_____

_____

_____

(3) **3.** Every even number greater than 2 can be written as the sum of two prime numbers. Find the sums that show this is true for the first six even numbers greater than 2.

_____ _____

_____ _____

_____ _____

(2) **4.** Explain why you think it is useful to be able to tell if a number is prime or composite.

_____

_____

_____

(10) ## Numbers in the News

Scavenger Hunt

Go through the scavenger hunt list for Module 2 to make sure you have clipped at least one sample for each question. Ask your home instructor to check the samples you found. Choose the samples you wish to use, and label each one with the scavenger hunt number it matches. Organize your samples and put them together with any other information required. Submit your project with this Assignment Booklet.

Ask yourself the following questions:

- Is my Numbers in the News project complete? (Have I included all my samples?)
- Do my samples show the ideas clearly? (Are my examples appropriate?)
- Did I take care to be neat when organizing and labelling my work?

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